

the Secretary, Legal Affairs Division, LR 31:2440 (October 2005), LR 33:2085 (October 2007).

§2117. Exemptions

A. The compounds listed in the following table are exempt from the control requirements of this Chapter.

Exempt Compounds
acetone
1-chloro-1,1-difluoroethane (HCFC-142b)
chlorodifluoromethane (HCFC-22)
1-chloro-1-fluoroethane (HCFC-151a)
chlorofluoromethane (HCFC-31)
chloropentafluoroethane (CFC-115)
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
cyclic, branched, or linear completely fluorinated alkanes
cyclic, branched, or linear completely fluorinated ethers with no unsaturations
cyclic, branched, or linear completely fluorinated tertiary amines with no unsaturations
cyclic, branched, or linear completely methylated siloxanes
1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300)
1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee)
dichlorodifluoromethane (CFC-12)
1,1-dichloro-1-fluoroethane (HCFC-141b)
1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)
3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)
1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114)
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)
1,1-difluoroethane (HFC-152a)
difluoromethane (HFC-32)
dimethyl carbonate
ethane
3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500)
1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C ₄ F ₉ OC ₂ H ₅ or HFE-7200)
ethylfluoride (HFC-161)
1,1,1,2,2,3,3-heptafluoro-3-methoxypropane (n-C ₃ F ₇ OCH ₃ , HFE-7000)
1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea)
2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF ₂) ₂ CF ₂ OCH ₃)
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF ₂) ₂ CF ₂ OC ₂ H ₅)
1,1,1,2,3,3,3-hexafluoropropane (HFC-236ea)
1,1,1,3,3,3-hexafluoropropane (HFC-236fa)
methane
methyl acetate
methylene chloride (dichloromethane)
methyl formate (HCOOCH ₃)
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C ₄ F ₉ OCH ₃ or HFE-7100)
parachlorobenzotrifluoride (PCBTF)
1,1,1,3,3-pentafluorobutane (HFC-365mfc)
pentafluoroethane (HFC-125)
1,1,1,2,3-pentafluoropropane (HFC-245eb)
1,1,1,3,3-pentafluoropropane (HFC-245fa)
1,1,2,2,3-pentafluoropropane (HFC-245ca)
1,1,2,3,3-pentafluoropropane (HFC-245ea)
perchloroethylene (tetrachloroethylene)
sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine
propylene carbonate
1,1,1,2-tetrafluoroethane (HFC-134a)
1,1,2,2-tetrafluoroethane (HFC-134)
1,1,1-trichloroethane (methyl chloroform)
trichlorofluoromethane (CFC-11)
1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113)
1,1,1-trifluoro-2,2-dichloroethane (HCFC-123)
1,1,1-trifluoroethane (HFC-143a)
trifluoromethane (HFC-23)

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2054.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Nuclear Energy, Air Quality Division, LR 13:741 (December 1987), amended LR 16:118 (February 1990), amended by the Office of Air Quality and Radiation Protection, Air Quality Division, LR 20:289 (March 1994), LR 21:681 (July 1995), LR 21:1330 (December 1995), repromulgated LR 22:14 (January 1996), amended LR 22:703 (August 1996), LR 23:1661 (December 1997), LR 24:22 (January 1998), LR 25:258 (February 1999), amended by the Office of Environmental Assessment, LR 31:1062 (May 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 35:924 (May 2009).

§2119. Variances

A. If upon written application of responsible person(s) the administrative authority* finds that by reason of exceptional circumstances strict conformity with any provisions of these regulations would cause undue hardship, would be unreasonable, impractical or not feasible technologically or economically under the circumstances, the administrative authority* may permit a variance from these regulations upon such conditions and with such time limitations as it may prescribe for prevention, control, or abatement of air pollution in harmony with the intent of the act.

B. No variance may permit or authorize the maintenance of a nuisance, or a danger to the public health or safety.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2054.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Nuclear Energy, Air Quality Division, LR 13:741 (December 1987), amended LR 16:118 (February 1990), amended by the Office of Air Quality and Radiation Protection, Air Quality Division, LR 17:361 (April 1991).

§2121. Fugitive Emission Control

A. Applicability. This regulation is applicable to equipment in petroleum refineries, natural gas processing plants, the synthetic organic chemical manufacturing industry (SOCMI), the methyl tertiary butyl ether (MTBE) manufacturing industry, and the polymer manufacturing industry that contains any of the following components that are intended to operate in VOC service 300 hours or more during the calendar year:

1. pumps;
2. compressors;
3. pressure relief devices;
4. open-ended valves or lines;
5. process drains;
6. valves;
7. agitators;
8. instrumentation systems; and
9. connectors.

B. Fugitive Emission Control Requirements

1. No *component* specified for monitoring under Subsection C of this Section shall be allowed to leak organic compounds exceeding 10,000 parts per million by volume (ppmv), as defined in LAC 33:III.111, when tested by Method 21 "Determination of Volatile Organic Compound Leaks" in 40 CFR Part 60, Appendix A, as incorporated by reference at LAC 33:III.3003. Any regulated component observed leaking by sight, sound, or smell must be repaired according to Paragraph B.3 of this Section, regardless of the leak's concentration. This includes instrumentation system leaks and flange and connection leaks found per Subparagraph C.3.b of this Section, pump and compressor seal leaks found during the weekly visual inspections, and other regulated components found leaking.

2. No valve, except safety pressure relief valves, valves on sample lines, valves on drain lines and valves that can be removed and replaced without a shutdown, shall be located at the end of a pipe or line containing volatile organic compounds unless the end of such line is sealed with a second valve, a blind flange, a plug, or a cap. Such sealing devices may be removed only when the line is in use, for example, when a sample is being taken. When the line has been used and is subsequently resealed, the upstream valve shall be closed first, followed by the sealing device.

3. The operator shall make every reasonable effort to repair a leaking component, as described in LAC 33:III.2121.B within 15 days. If the component can be isolated or bypassed so as to significantly reduce or eliminate leakage, or if the repair of a component would require a unit shutdown, and if the shutdown would create more emissions than the repair would eliminate, the repair may be delayed to the next scheduled shutdown. An early unit shutdown may be ordered if leaking component losses become excessive.

C. Monitoring Requirements. The monitoring of the affected components shall be performed by the following schedule using the method described in LAC 33:III.2121.B.

1. Petroleum Refineries, SOCFI, MTBE, and Polymer Manufacturing Industry

a. Monitor with a leak detection device one time per year (annually) the following items:

- i. pump seals;
- ii. valves in liquid service; and
- iii. process drains.

b. Monitor with a leak detection device four times per year (quarterly) the following items:

- i. compressor seals;
- ii. valves in gas service;
- iii. pressure relief valves in gas service;

iv. valves in light liquid service at SOCFI, MTBE, and Polymer Manufacturing Plants; and

v. pumps in light liquid service at SOCFI, MTBE, and Polymer Manufacturing Plants.

c. Monitor pump seals visually 52 times a year (weekly).

2. Natural Gas Processing Plants

a. Monitor pump seals and compressor seals visually 52 times a year (weekly).

b. Monitor with a leak detection device four times a year (quarterly) the following items:

- i. pumps, pump and compressor seals;
- ii. valves; and
- iii. pressure relief valves in gas service.

3. Facilities Listed in Paragraphs C.1 and 2 of This Section

a. Monitor with a leak detection device any pressure relief valve within 24 hours after it has vented to the atmosphere (For natural gas processing plants an immediate visual evaluation will be made).

b. Monitor immediately with a leak detection device any component that appears to be leaking on the basis of sight, smell, or sound. This includes flanges and connectors, instrumentation systems, and pump and compressor seals observed during the weekly visual inspections, and any other regulated components that appear to be leaking. In lieu of monitoring, the operator may elect to implement actions as specified in Paragraph B.3 of this Section.

c. Any valve that is designated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Clauses C.1.b.ii and iv and C.2.b.ii of this Section if the valve:

i. has no external actuating mechanism in contact with the process fluid (e.g., diaphragm valves, sealed bellows valves);

ii. is operated with emissions less than 500 ppm above background as measured in accordance with this Section; and

iii. is tested for compliance with Clause C.3.c.ii of this Section initially upon designation and annually thereafter.

4. Exemptions. Monitoring is not required on the following:

a. components subject to LAC 33:III.2121.C.1 (petroleum refineries, SOCFI, MTBE, and polymer manufacturing industry) which contact a process fluid that contains less than 10 percent VOC by volume or components subject to LAC 33:III.2121.C.2 (Natural Gas Processing Plants) which contact a process fluid that contains less than 1.0 percent VOC by weight;

b. components in the petroleum refineries, SOCFI, MTBE, and polymer manufacturing industry which contact

only a process liquid containing a VOC having a true vapor pressure equal to or less than 0.0435 psia (0.3 kPa) at 68°F (20°C);

c. flanges, inaccessible valves, valves that are unsafe to monitor, check valves (including similar devices not externally regulated). Inaccessible valves should be monitored on an annual basis at a minimum. Unsafe-to-monitor valves should be monitored when conditions would allow these valves to be monitored safely, e.g., during shutdown;

d. pressure relief valves in liquid service at SOCFI and polymer manufacturing industry, except after venting;

e. pressure relief devices, pump seals or packing and compressor seals or packing which are tied to either a flare header or vapor recovery device;

f. equipment operating under vacuum;

g. natural gas processing plants with less than 40 million cubic feet per day (mmcf) capacity that do not fractionate natural gas liquids;

h. components contacting only organic compounds exempted under LAC 33:III.2117 or mixtures of same with water;

i. pumps and compressors that are sealless or have a double mechanical seal;

j. research and development pilot facilities and small facilities with less than 100 valves in gas or liquid service.

5. Alternate Monitoring Program. Any facility which already has in place a fugitive emission monitoring program which controls to a higher degree than required under this Section shall be exempted from this Section upon submittal of a description of the program to the administrative authority*.

D. Alternate Control Techniques. The monitoring schedule in LAC 33:III.2121.C may be modified as follows.

1. Alternate Standards for Valves and Pumps subject to LAC 33:III.2121.C.1.b and 2.b—Skip Period Leak Detection and Repair

a. An owner or operator may elect to comply with one of the alternative work practices specified in LAC 33:III.2121.D.1.b and c. However, the administrative authority must be notified before implementing one of the alternative work practices.

b. After two consecutive quarterly leak detection periods with the percent of components leaking equal to or less than 2.0, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and liquid service and pumps in light liquid service.

c. After five consecutive quarterly leak detection periods with the percent of components leaking equal to or less than 2.0, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in

gas/vapor and liquid service and pumps in light liquid service.

d. If the percent of components leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in LAC 33:III.2121.C but subsequently can again elect to use this Subsection.

e. The percent of components leaking shall be determined by dividing the sum of components found leaking during current monitoring and components for which repair has been delayed by the total number of components subject to the requirements of LAC 33:III.2121.C.

f. An owner or operator must keep a record of the percent of valves and pumps found leaking during each leak detection period.

2. Alternative Standards for Valves and Pumps—Increased Monitoring Frequency. If there is an excessive number of leaks (greater than the good performance level), then an increase in the frequency of monitoring may be required.

E. Recordkeeping

1. When a leak that cannot be repaired on-line and in-place, as described in LAC 33:III.2121.B is located, a weatherproof and readily visible tag bearing an identification number and the date the leak is located shall be affixed to the leaking component. After the leak is repaired the tag is dated and removed.

2. A survey log shall be maintained by the operator which shall include the following:

a. the name of the process unit where the leaking component is located;

b. the name of the leaking component;

c. the stream identification at the leak;

d. the identification number from the tag required by LAC 33:III.2121.E.1;

e. the date the leak was located;

f. the date maintenance was performed;

g. the date the component was rechecked after maintenance, as well as the instrument reading upon check (For natural gas processing plants the soap bubble test commonly performed in the industry is satisfactory);

h. a record of leak detection device calibration;

i. a listing of leaks not repaired until turnaround;

j. a list of total number of items checked versus the total found leaking.

3. The operator shall retain the survey log for two years after the latter date specified in LAC 33:III.2121.E.2 and make said log available to the administrative authority upon request.

F. Reporting Requirements. The operator of the affected facility shall submit to the Office of Environmental

Assessment a report semiannually containing the information below for each calendar quarter during the reporting period. The reports are due by the last day of the month (January and July) following the monitoring period or by a date approved by the department. The reports shall include the following information for each quarter of the reporting period:

1. the number of items checked versus the number found leaking, and a calculation of the percent of components leaking, as defined in Subparagraph D.1.e of this Section;
2. a listing of all leaks that were identified, but not repaired, within the 15-day limit, including the following information:
 - a. the name of the unit where the leaking component is located and the date of last unit shutdown;
 - b. the name of the leaking component;
 - c. the stream identification at the leak;
 - d. the date the leak was located;
 - e. the date maintenance was attempted;
 - f. the date the leak will be repaired; and
 - g. the reason repairs failed or were postponed;
3. the list of items awaiting turnaround for repair; and
4. a signed statement attesting to the fact that all other monitoring has been performed as required by the regulations.

G. Definitions. Terms used in this Section are defined in LAC 33:III.111 with the exception of those terms specifically defined as follows.

Heavy Liquid Service—equipment that is not in gas/vapor service or is not in light liquid service.

Inaccessible Valve—a valve than cannot be monitored without elevating the monitoring personnel more than 2 meters above a support service.

Instrumentation System—a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow). Valves and connectors are the predominant types of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inch and smaller and connectors nominally 0.75 inch and smaller in diameter are considered instrumentation systems for the purposes of these regulations. Valves greater than nominally 0.5 inch and connectors greater than nominally 0.75 inch associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

Light Liquid—a fluid with a vapor pressure greater than 0.3 kPa at 20°C.

Light Liquid Service—equipment in liquid service contacting a fluid greater than 10 percent by weight light liquid.

Liquid Service—equipment which processes, transfers or contains a VOC mixture of VOC in the liquid phase.

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§2122. Fugitive Emission Control for Ozone Nonattainment Areas and Specified Parishes

A. Applicability

1. This regulation is applicable to each process unit at petroleum refineries, natural gas processing plants, the synthetic organic chemical manufacturing industry (SOCMI), the methyl tertiary butyl ether (MTBE) manufacturing industry, and the polymer manufacturing industry that contains any of the following components that are intended to operate in VOC service 300 hours or more during the calendar year:

- a. pumps;
- b. compressors;
- c. pressure relief devices;
- d. open-ended valves or lines;
- e. process drains;
- f. valves;
- g. agitators;
- h. instrumentation systems; and
- i. connectors.

2. This Section is applicable to sources in the parishes of Ascension, Calcasieu, East Baton Rouge, Iberville, Livingston, Pointe Coupee, and West Baton Rouge.

3. The requirements of this Section shall be effective for sources located in the parishes of Ascension, East Baton Rouge, Iberville, Livingston, Pointe Coupee, and West Baton Rouge starting January 1, 1996.

4. The requirements of this Section shall be effective for sources located in the parish of Calcasieu starting January 1, 2003.

5. When the provisions of this Section are effective, process units to which this Section applies that are also

subject to the provisions of LAC 33:III.2121 will not be required to comply with the provisions of LAC 33:III.2121.

6. Applicable facilities as defined in Paragraph A.1 of this Section, which are subject to New Source Performance Standards, 40 CFR 60.480-489 (Subpart VV), 60.590-593 (Subpart GGG), 60.630-636 (Subpart KKK), or 61.240-247 (Subpart V), as incorporated by reference in LAC 33:III.Chapter 30, may become exempt from this Section by:

a. submitting a written notice to the administrative authority* informing them of the facility's request to become exempt from this Section and how 40 CFR 60.480-489 (Subpart VV), 60.590-593 (Subpart GGG), 60.630-636 (Subpart KKK), or 61.240-247 (Subpart V), as incorporated by reference in LAC 33:III.Chapter 30, will be administered to obtain that exemption;

b. applying 40 CFR 60.480-489 (Subpart VV), 60.590-593 (Subpart GGG), 60.630-636 (Subpart KKK), or 61.240-247 (Subpart V), as incorporated by reference in LAC 33:III.Chapter 30, to leak limitations specified in Paragraph C.1 of this Section rather than 10,000 ppm as specified in 40 CFR 60.480-489 (Subpart VV), 60.590-593 (Subpart GGG), 60.630-636 (Subpart KKK), or 61.240-247 (Subpart V), as incorporated by reference in LAC 33:III.Chapter 30;

c. including connectors as leak sources monitored and repaired using the restrictions in 40 CFR 60.480-489 (Subpart VV), 60.590-593 (Subpart GGG), 60.630-636 (Subpart KKK), or 61.240-247 (Subpart V), as incorporated by reference in LAC 33:III.Chapter 30, which apply to valves; and

d. increasing monitoring frequency only when the leaking sources monitored and repaired using the restrictions in 40 CFR 60.480-489 (Subpart VV), 60.590-593 (Subpart GGG), 60.630-636 (Subpart KKK), or 61.240-247 (Subpart V), as incorporated by reference in LAC 33:III.Chapter 30, which apply to valves, equal or exceed 2 percent of the valves monitored at or above 10,000 ppm.

B. Definitions. Terms used in this Section are defined in LAC 33:III.111 with the exception of those terms specifically defined as follows.

Connector—flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. Welded connections are not connectors.

Good Performance Level—an operating level reached when no more than 2.0 percent of a component in VOC service in a process unit are leaking at the leak rate definition or greater as determined by Method 21, "Determination of Volatile Organic Compound Leaks" (40 CFR Part 60, Appendix A, as incorporated by reference at LAC 33:III.3003).

Heavy Liquid Service—equipment that is not in VOC gas/vapor service or is not in VOC light liquid service.

Inaccessible Valve—a valve that cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

Instrumentation System—a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow). Valves and connectors are the predominant types of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inch and smaller and connectors nominally 0.75 inch and smaller in diameter are considered instrumentation systems for the purposes of these regulations. Valves greater than nominally 0.5 inch and connectors greater than nominally 0.75 inch associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

In Vacuum Service—equipment operating at an internal pressure that is at least 20 inches of water (38 mm of Hg) below ambient pressure.

Light Liquid—a fluid with a vapor pressure greater than 0.3 kPa (0.0435 psia) at 20°C (68°F) or a fluid for which the weight percent evaporation at 150°C exceeds 10 percent as determined by ASTM D86.

Light Liquid Service—equipment in liquid service contacting a fluid greater than 10 percent by weight light liquid.

Liquid Service—equipment which processes, transfers, or contains a VOC or mixture of VOC in the liquid phase.

Process Unit—a process unit that can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

Process Unit Shutdown—a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start-up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown, is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

Unrepairable Component—unrepairable components are those designated as requiring a process unit shutdown to repair where more emissions would be created by an immediate facility shutdown than allowing the component to leak until the next scheduled shutdown, and the component is listed on a shutdown list for repairs.

C. Fugitive Emission Control Requirements

1. Leak Limitations

a. No component in petroleum refineries, SOCOMI, MTBE, and polymer manufacturing industry shall be allowed to leak volatile organic compounds exceeding an instrument reading of 1,000 ppmv or greater for valves, connectors, instrumentation systems, pressure relief devices, and process drains; 5,000 ppmv for pumps and compressors; or 10,000 ppmv for agitators, as outlined in Subsection D of this Section, when tested by Method 21 (40 CFR Part 60, Appendix A, as incorporated by reference at LAC 33:III.3003).

b. No component in natural gas processing plants shall be allowed to leak volatile organic compounds exceeding an instrument reading of 2,500 ppmv for valves, connectors, instrumentation systems, pressure relief devices, process drains, and open-ended valves and lines; 5,000 ppmv for pumps and compressors; or 10,000 ppmv for agitators, as outlined in Subsection D of this Section, when tested by Method 21 (40 CFR Part 60, Appendix A, as incorporated by reference at LAC 33:III.3003).

c. Any regulated component observed leaking by sight, sound, or smell, except those covered under Subparagraph C.1.d of this Section, must be repaired according to Paragraph C.3 of this Section, regardless of the leak's concentration. This includes flange and connection leaks found per Subparagraph D.3.b of this Section, pump and compressor seal leaks found during the weekly visual inspections, and any other regulated component found leaking. This does not include valves or pumps in heavy liquid service.

d. Any pump or valve in heavy liquid service observed leaking by sight, sound, or smell shall be monitored within five days by the method specified in 40 CFR Part 60, Appendix A (Method 21), as incorporated by reference in LAC 33:III.Chapter 30. If the pump or valve is determined to be leaking in excess of the applicable limits given in this Subsection, it shall be repaired according to Paragraph C.3 of this Section.

2. No valve, except safety pressure relief valves, shall be located at the end of a pipe or line containing volatile organic compounds unless the end of such line is sealed with a second valve, a blind flange, a plug, or a cap. Such sealing devices may be removed only when the line is in use, for example, when a sample is being taken. When the line has been used and is subsequently resealed, the upstream valve shall be closed first, followed by the sealing device.

3. The operator shall make every reasonable effort to repair a leaking component, as described in this Subsection, within 15 days. If the component cannot be isolated or bypassed so as to significantly reduce or eliminate leakage, or if the repair of a component would require a unit shutdown, and if the shutdown would create more emissions than the repair would eliminate, the repair may be delayed to the next scheduled shutdown. The delay of repair shall not be any later than the next scheduled process unit shutdown.

An early unit shutdown may be ordered if the total percentage of leaking and unrepairable components are excessive.

4. Percent of leaking components at a process unit shall be determined for a test period as follows.

Equation 1

$$\% C_{lv} = \left[\frac{C_{lv}}{C_{tv}} \right] * 100\%$$

where:

- % C_{lv} = percent of leaking valves, flanged connectors, or pumps
- C_{lv} = number of valves, flanged connectors, or pumps found leaking during the monitoring period
- C_{tv} = total number of valves, flanged connectors, or pumps monitored during the period

5. Total percent of leaking and unrepairable components shall be determined as follows.

Equation 2

$$\% C_{tlv} = \left[\frac{C_{tlv}}{C_{ttv} + C_{tuv}} \right] * 100\%$$

where:

- % C_{tlv} = total percent of leaking and unrepairable valves, flanged connectors, or pumps
- C_{tlv} = number of valves, flanged connectors, or pumps found leaking or defined as unrepairable
- C_{ttv} = total number of valves, flanged connectors, or pumps tested during the period
- C_{tuv} = total number of valves, flanged connectors, or pumps which were defined as unrepairable

D. Monitoring Requirements. The monitoring of the affected components shall be performed by the following schedule using the method described in Subsection C of this Section or one of the alternate monitoring programs in Subsection E of this Section.

1. Petroleum Refineries, SOCOMI, MTBE, and Polymer Manufacturing Industry

a. Monitor process drains with a leak detection device one time per year (annually).

b. Monitor with a leak detection device four times per year (quarterly) the following items:

- i. compressor seals;
- ii. pressure relief valves in gas service;
- iii. valves in light liquid service;
- iv. pumps in light liquid service; and
- v. valves in gas service.

c. Monitor pump seals visually 52 times a year (weekly).

d. Monitor all flanged connectors in accordance with either Clause D.1.d.i or ii of this Section.

i. Inspect all flanged connectors weekly by visual, audible, and olfactory means.

ii. Monitor flanged connectors four times per year (quarterly) using a leak detection device as follows.

(a). Either 200 or 10 percent, whichever is less, of the flanged connectors shall be monitored each quarterly period in accordance with a written sampling plan.

(b). The sampling plan shall ensure that at least 66 percent of the flanged connectors monitored each quarterly period shall not have been previously monitored, until all flanged connectors within the process have been monitored.

e. Inspect weekly, by visual, audible, and olfactory means, all instrumentation systems.

f. Records of the visual, audible, and olfactory inspections of connectors and instrumentation systems are not required unless a leak is detected.

2. Natural Gas Processing Plants

a. Monitor pump seals and compressor seals visually 52 times a year (weekly).

b. Monitor with a leak detection device four times a year (quarterly) the following items:

i. pumps, pump and compressor seals;

ii. valves; and

iii. pressure relief valves in gas service.

3. Facilities Listed in Paragraphs D.1 and 2 of This Section

a. Monitor with a leak detection device any pressure relief valve within 24 hours after it has vented to the atmosphere. (For natural gas processing plants an immediate visual evaluation will be made.)

b. Monitor immediately with a leak detection device any component that appears to be leaking on the basis of sight, smell, or sound. This includes flanges and connectors, instrumentation systems, and pump and compressor seals observed during the weekly visual inspections, and any other regulated components that appear to be leaking. In lieu of monitoring, the operator may elect to implement actions as specified in Paragraph C.3 of this Section.

c. Inaccessible valves shall be monitored on an annual basis at a minimum.

d. Unsafe-to-monitor valves shall be monitored when conditions would allow these valves to be monitored safely (e.g., during shutdown).

e. Any valve that is designated for no detectable emissions, as indicated by an instrument reading of less than

500 ppm above background, is exempt from the requirements of Clauses D.1.b.iii and v and D.2.b.ii of this Section if the valve:

i. has no external actuating mechanism in contact with the process fluid (e.g., diaphragm valves, sealed bellows valves);

ii. is operated with emissions less than 500 ppm above background as measured in accordance with this Section; and

iii. is tested for compliance with Clause D.3.e.ii of this Section initially upon designation and annually thereafter.

4. Exemptions. Monitoring is not required on the following:

a. components subject to Paragraph D.1 of this Section (petroleum refineries, SOCMI, MTBE, and polymer manufacturing industry) which contact a process fluid that contains less than 10 percent VOC by volume or components subject to Paragraph D.2 of this Section (natural gas processing plants) which contact a process fluid that contains less than 1.0 percent VOC by weight;

b. components in the petroleum refineries, SOCMI, MTBE, and polymer manufacturing industry that contact only a process liquid containing a VOC having a true vapor pressure equal to or less than 0.3 kPa (0.0435 psia) at 20°C (68°F);

c. pressure relief valves in liquid service at SOCMI and polymer manufacturing industry, except after venting;

d. pressure relief devices, pump seals or packing, and compressor seals or packing where leaks are vented to either a flare header or vapor recovery device;

e. equipment in vacuum service;

f. natural gas processing plants with less than 40 million cubic feet per day (mmcf) capacity that do not fractionate natural gas liquids;

g. components contacting only organic compounds exempted under LAC 33:III.2117 or mixtures of same with water;

h. pumps and compressors that are sealless or have a double mechanical seal;

i. research and development pilot facilities and small facilities with less than 100 valves in gas or liquid service;

j. insulated connectors;

k. components that have been placed on a shutdown list for repairs are exempt from further monitoring until a repair has been attempted; and

l. check valves.

5. Alternate Monitoring Program. Any facility that already has in place a fugitive emission monitoring program which controls to a higher degree than required under this

Section shall be exempted from this Section upon submittal of a description of the program to the administrative authority* and approval thereof.

E. Alternate Control Techniques. The monitoring schedule in Subsection D of this Section may be modified as follows.

1. Alternate Standards for Valves Subject to Subparagraph D.1.b or D.2.b of This Section—Skip Period Leak Detection and Repair

a. An owner or operator may elect to comply with one of the alternative work practices specified in Subparagraphs E.1.b, c, g or Paragraph E.2 of this Section. However, the administrative authority* must be notified in writing before implementing one of the alternative work practices.

b. After two consecutive quarterly leak detection periods with the percent of leaking valves (Equation 1) equal to or less than 2.0, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

c. After five consecutive quarterly leak detection periods with the percent of leaking valves (Equation 1) equal to or less than 2.0, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

d. If the percent of leaking valves (Equation 1) is greater than 2.0, or the total percent of leaking and unrepairable valves (Equation 2) is greater than 4.0, the owner or operator shall comply with the requirements as described in Subsection D of this Section but subsequently can again elect to use this Subsection when the requirements are met.

e. The percent of leaking valves (Equation 1) shall be determined by dividing the sum of components found leaking during the current monitoring period by the total number of valves which were tested and multiplying the results by 100 percent.

f. An owner or operator must keep a record of the percent of valves found leaking during each leak detection period and the total percentage of leaking and unrepairable valves.

g. Existing equipment that has been monitored under LAC 33:III.2121 for fugitives at the leak definition of 10,000 ppmv can initially elect to use this alternate standard if the unit has data documented with the department by either January 1, 1996, or for the 12 months prior to becoming subject to this Section, that indicates the percent of leaking valves (Equation 1) is less than or equal to a 2.0 percent leak rate at 10,000 ppmv for the required time period.

2. Alternative Standards for Valves—Increased Monitoring Frequency. If the percent of leaking valves (Equation 1) in a test period is greater than 2.0, or the total percent of leaking and unrepairable valves (Equation 2) is greater than 4.0, then an increase in the frequency of

monitoring may be required by the administrative authority*.

3. Alternate Standards for Flanged Connectors Subject to Clause D.1.d of this Section—Skip Period Leak Detection and Repair

a. An owner or operator may elect to comply with one of the alternative work practices specified in Clause E.3.b or Paragraph E.4 of this Section. However, the administrative authority* must be notified in writing before implementing one of the alternative work practices.

b. After four consecutive quarterly leak detection periods with the percent of leaking flanged connectors (Equation 1) equal to or less than 1.0, an owner or operator may begin to skip three of the quarterly leak detection periods for the flanged connectors in gas/vapor and light liquid service.

c. If the percent of leaking flanged connectors (Equation 1) is greater than 1.0, or the total percent of leaking and unrepairable flanged connectors (Equation 2) is greater than 2.0, the owner or operator shall comply with the requirements as described in Subsection D of this Section but subsequently can again elect to use this Subsection when the requirements are met.

d. The percent of leaking flanged connectors (Equation 1) shall be determined by dividing the sum of components found leaking during the current monitoring period by the total number of flanged connectors that were tested and multiplying the results by 100 percent.

e. An owner or operator must keep a record of the percent of flanged connectors found leaking during each leak detection period and the total percentage of leaking and unrepairable flanged connectors.

4. Alternative Standards for Flanged Connectors—Increased Monitoring Frequency. If the percent of leaking flanged connectors (Equation 1) in a test period is greater than 1.0, or the total percent of leaking and unrepairable flanged connectors (Equation 2) is greater than 2.0, then an increase in the frequency of monitoring may be required by the administrative authority*.

5. Alternate Standard for Batch Processes. As an alternate to complying with the requirements in Subsection D of this Section an owner or operator of a batch process in VOC service may elect to comply with one of the following alternative work practices. The batch product-process equipment shall be tested with a gas using the procedures specified in Subparagraph E.5.a of this Section or with a liquid as specified in Subparagraph E.5.b of this Section.

a. The following procedures shall be used to pressure test batch product-process equipment using a gas (e.g., air or nitrogen) to demonstrate compliance.

i. The batch product-process equipment train shall be pressurized with a gas to the operating pressure of the equipment. The equipment shall not be tested at a pressure greater than the pressure setting of the lowest relief valve setting.

ii. Once the test pressure is obtained, the gas source shall be shut off.

iii. The test shall continue for not less than 15 minutes, unless it can be determined in a shorter period of time that the allowable rate of pressure drop was exceeded. The pressure in the batch product-process equipment shall be measured after the gas source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

$$\frac{P}{t} = \frac{P_f - P_i}{t_f - t_i}$$

Equation 3

where:

P/t = change in pressure, psia/hr

P_f = final pressure, psia

P_i = initial pressure, psia

$t_f - t_i$ = elapsed time, hours

iv. The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) that has a precision of ± 2.5 millimeters (± 0.05 psig) of mercury in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device.

v. A leak is detected if the rate of change in pressure is greater than 6.9 kPa (1 psig) in one hour or if there is visible, audible, or olfactory evidence of fluid loss.

b. The following procedures shall be used to pressure test batch product-process equipment using a liquid to demonstrate compliance.

i. The batch product-process equipment train, or section of the train, shall be filled with the test liquid (e.g., water, alcohol). Once the equipment is filled, the liquid source shall be shut off.

ii. The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.

iii. Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

iv. If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before VOCs are fed to the equipment.

v. If the batch product-process equipment fails the retest or the second of two consecutive pressure tests, it shall be repaired as soon as practicable, but not later than 30 calendar days after the equipment is placed in VOC service.

F. Recordkeeping

1. When a component which has a leak that cannot be repaired, as described in Subsection C of this Section, is located, a weatherproof and readily visible tag bearing an identification number and the date the leak is located shall be affixed to the leaking component. After the leak has been repaired the tag identifying the component as a leaking component may be removed.

2. A survey log shall be maintained by the operator and shall include the following:

- a. the name of the process unit where the leaking component is located;
- b. the name of the leaking component;
- c. the stream identification at the leak;
- d. the identification number from the tag required by Paragraph F.1 of this Section;
- e. the date the leak was located;
- f. the date maintenance was performed;
- g. the date(s) the component was rechecked after maintenance, as well as the instrument reading(s) upon recheck (For natural gas processing plants the soap bubble test commonly performed in the industry is satisfactory.);
- h. a record of leak detection device calibration;
- i. a list of leaks not repaired until turnaround;
- j. a list of total number of items checked versus the total found leaking.

3. The operator shall retain the survey log for two years after the latter date specified in Paragraph F.2 of this Section and make said log available to the administrative authority* upon request.

G. Reporting Requirements. The operator of the affected facility shall submit a report semiannually to the Office of Environmental Assessment containing the information below for each calendar quarter during the reporting period. The reports are due by the last day of the month (January and July) following the monitoring period or by a date approved by the department. The reports shall include the following information for each quarter of the reporting period:

1. the number of items checked versus the number found leaking;
2. the percent of components leaking for the *test period*, as defined in Paragraph C.4 of this Section;
3. the total percent of leakers, as defined in Paragraph C.5 of this Section;
4. a listing of all leaks that were identified, but not repaired, within the 15-day limit, including the following information:
 - a. the name of the unit where the leaking component is located and the date of last unit shutdown;
 - b. the name of the leaking component;

- c. the stream identification at the leak;
 - d. the date the leak was located;
 - e. the date maintenance was attempted;
 - f. the date the leak will be repaired if the component is awaiting a shutdown; and
 - g. the reason repairs failed or were postponed;
5. the list of items awaiting turnaround for repair; and
6. a signed statement attesting to the fact that all other monitoring has been performed as required by the regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2054.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Air Quality Division, LR 20:1102 (October 1994), repromulgated LR 20:1279 (November 1994), amended LR 22:1129 (November 1996), LR 22:1212 (December 1996), repromulgated LR 23:197 (February 1997), amended LR 23:1678 (December 1997), LR 24:22 (January 1998), LR 24:1285 (July 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2453 (November 2000), LR 28:1764 (August 2002), LR 30:1660 (August 2004), repromulgated by the Office of Environmental Assessment, LR 30:2030 (September 2004), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2440 (October 2005), LR 33:2086 (October 2007).

Subchapter B. Surface Coatings

§2123. Organic Solvents

A. Except as provided in Subsections B and C of this Section, any emissions source using organic solvents having an emission of volatile organic compounds resulting from the application of surface coatings equal to or more than 15 pounds (6.8 kilograms) per day, or an equivalent level of 2.7 tons per 12-month rolling period, shall control emissions of volatile organic compounds through the use of low solvent coatings, as provided in Subsection C of this Section, or, where feasible, by incorporating one or more of the following control methods:

1. incineration, provided 90 percent of the carbon in the organic compounds being incinerated is oxidized to carbon dioxide (except as provided in Subsection D of this Section);
2. carbon adsorption, with a control efficiency of at least 90 percent, of the organic compounds;
3. any other equivalent means as may be approved by the administrative authority. Once a source exceeds the emission cutoff specified in this Section that source shall be subject and shall remain subject to the requirements of this Subsection regardless of future emission rates.

B. Soldering operations, painting and coating operations not listed in Subsection C of this Section, and dry cleaning operations using organic solvents that are not considered photochemically reactive shall be considered for exemption from the requirements of this Section.

1. For the purposes of this Subsection, a photochemically reactive solvent is any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations, referred to the total volume of solvent:

- a. a combination of hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones having an olefinic or cycloolefinic type of unsaturation: 5 percent;
- b. a combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent;
- c. a combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

2. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of solvents.

C. **Surface Coating Industries.** No person may cause, suffer, allow, or permit volatile organic compound (VOC) emissions from the surface coating of any materials affected by this Subsection to exceed the emission limits as specified in this Section.